

U.S. Application 09/619,560

Attorney Docket No. 2000B047

E1

(ii) a second crystalline molecular sieve different from the first molecular sieve and selected from zeolite beta and mordenite, the percentage by weight of the first crystalline molecular sieve and the percentage by weight of the second crystalline molecular sieve in said transalkylation catalyst being percentages, based on the total weight of molecular sieve in the transalkylation catalyst, effective to reduce the concentration of any one or more by-products below the concentration of that by-product which is determined by calculating the linear weighted average of the concentrations of that by-product resulting from the use of each of the molecular sieves individually as a catalyst for transalkylation under the same conditions, excluding WHSV, all such concentrations being determined with respect to the weight of monoalkylated aromatic compound produced at a given conversion percentage of the polyalkylated aromatic compound.

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E2

5. [Twice Amended] The process of claim 1, wherein the transalkylation catalyst comprises about 15 to about 50% by weight of the first crystalline molecular sieve based on the total weight of molecular sieve material in the catalyst.

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E3

10. [Three Times Amended] A process for producing a monoalkylated aromatic compound comprising the steps of:

- (a) contacting an alkylatable aromatic compound with an alkylating agent in the presence of an alkylation catalyst to provide a product comprising said monoalkylated aromatic compound and a polyalkylated aromatic compound, and then
- (b) contacting the polyalkylated aromatic compound from step (a) with said alkylatable aromatic compound under at least partial liquid phase conditions and in the presence of a transalkylation catalyst to produce a monoalkylated aromatic compound, wherein the transalkylation catalyst comprises a mixture of at least :

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- (i) a first crystalline molecular sieve having an X-ray diffraction pattern including d-spacing maxima at  $12.4 \pm 0.25$ ,  $6.9 \pm 0.15$ ,  $3.57 \pm 0.07$  and  $3.42 \pm 0.07$  Angstrom; and
  - (ii) a second crystalline molecular sieve different from the first molecular sieve and selected from zeolite beta and mordenite, the percentage by weight of the first crystalline molecular sieve and the percentage by weight of the second crystalline molecular sieve in said transalkylation catalyst being percentages, based on the total weight of molecular sieve in the transalkylation catalyst, effective to reduce the concentration of any one or more by-products below the concentration of that by-product which is determined by calculating the linear weighted average of the concentrations of that by-product resulting from the use of each of the molecular sieves individually as a catalyst for transalkylation under the same conditions, excluding WHSV, all such concentrations being determined with respect to the weight of monoalkylated aromatic compound produced at a given conversion percentage of the polyalkylated aromatic compound.
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18. [Twice Amended] The process of claim 10, wherein the transalkylation catalyst of step (b) comprises about 15 to about 50% by weight of the first crystalline molecular sieve based on the total weight of molecular sieve material in the catalyst.
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- 55
19. [Three Times Amended] A process for producing cumene comprising the steps of:
- (a) contacting benzene with propylene under at least partial liquid phase conditions and in the presence of an alkylation catalyst to provide a product comprising cumene and polyisopropylbenzenes, and then
  - (b) contacting the polyisopropylbenzenes from step (a) with benzene under at least partial liquid phase conditions and in the presence of a

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transalkylation catalyst to produce further cumene, wherein the transalkylation catalyst comprises a mixture of at least :

- ES
- (i) a first crystalline molecular sieve having an X-ray diffraction pattern including d-spacing maxima at  $12.4 \pm 0.25$ ,  $6.9 \pm 0.15$ ,  $3.57 \pm 0.07$  and  $3.42 \pm 0.07$  Angstrom; and
  - (ii) a second crystalline molecular sieve different from the first molecular sieve and selected from zeolite beta and mordenite, the percentage by weight of the first crystalline molecular sieve and the percentage by weight of the second crystalline molecular sieve in said transalkylation catalyst being percentages, based on the total weight of molecular sieve in the transalkylation catalyst, effective to reduce the concentration of any one or more by-products below the concentration of that by-product which is determined by calculating the linear weighted average of the concentrations of that by-product resulting from the use of each of the molecular sieves individually as a catalyst for transalkylation under the same conditions, excluding WHSV, all such concentrations being determined with respect to the weight of cumene produced at a given conversion percentage of the polyisopropylbenzenes.

Please enter the following new claims:

- EF
- 23. The process of claim 1, wherein the transalkylation catalyst comprises about 15 to about 50% by weight of the second crystalline molecular sieve based on the total weight of molecular sieve material in the catalyst.
  - 24. The process of claim 10, wherein the transalkylation catalyst comprises about 15 to about 50% by weight of the second crystalline molecular sieve based on the total weight of molecular sieve material in the catalyst.